NASA Glenn
Plum Brook Station

FOURTH EDITION
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Decommissioning NEWS
Plum Brook Station

A quarterly newsletter to inform the public about NASA's Decommissioning Activities

SEEING IS BELIEVING
ON TOUR AT THE PLUM BROOK REACTOR FACILITY

Early in the evening of April 23, members of the Decommissioning Community Workgroup - John Blakeman, Janet and Mark Bohne, Rick Graham, Dr. Bob Speers and Bill Walker - along with a few NASA retirees who once worked at the Reactor Facility, met up with Decommissioning Project Manager Tim Polich, Senior Project Engineer Keith Peecook, and Sally Harrington of NASA Glenn's Community and Media Relations Office. Together, they took a look inside the Reactor Facility they have heard and read about for the past several years.

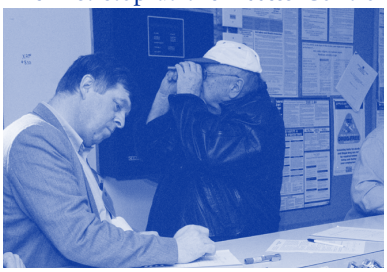
Workgroup members were not the only ones happy to be going on the tour. "We're extremely pleased to be able to take folks on this tour," said Polich. "It's important to NASA that the Workgroup get to see all the layers of safety we have talked about for so long - and, that you see the work we've accomplished and start to get a feel for what we'll be doing over the next five years." Enthusiasm is also obvious in Keith Peecook's voice as he gives members an overview of what people will see that evening, especially the levels of safety and security in place.

"The tour was most beneficial. Real world experiences are essential to provide the basis for talk and the written word."
-Bob Speers-

"It was better than (watching) PBS"
-Janet Bohne-

"The level of safety for the overall project...(and) the safety program history of the facility impressed me a lot."
-Rick Graham-

The first stop at the Access Control Station makes a big impression. Following the protocol that every NASA staff person or Decommissioning Project team member goes through, each person is issued a personal radiation-monitoring device (dosimeter) they must wear inside the facility. The dosimeters measure any possible radiation exposure received during the tour. While some people peer through the dial to determine the beginning readings and write down the initial setting, the safeguard arouses the curiosity of Dr. Bob Speers and John Blakeman, longtime science educators who are interested in how the monitors are calibrated and what they measure. Keith notes that they measure accumulated dose. In addition to getting dosimeters, people must walk through a full body monitor prior to entering the Reactor Facility, to ensure "nobody carries in any radiation."


NASA retiree Len Homyak (at right) checks the radiation level on his dosimeter at the Access Control Station.

The next stop involves more administrative controls: having each person read and sign forms acknowledging the areas of the facility they will go through and, importantly, the expected levels of radiation - which, in the case of this tour, are zero. Referred to as a "Radiation Work Permit," every activity that is undertaken at the Reactor Facility goes through a safety analysis to determine what the levels of radiation are expected to be, and importantly, to make sure steps are taken to keep radiation exposures As Low As Reasonably Achievable (ALARA).


Dr. Bob Speers goes through full-body monitor before entering the Reactor Facility.

The group's first stop within the Reactor Facility itself is one they've heard a lot about - and where a lot of work occurred last summer - the Hot Cell Gallery. This was the area used to conduct radiation experiments. Although the seven cells themselves are now clear of the loose equipment previously stored there, Workgroup members had the opportunity to try out the manipulator arms that reactor workers used to move the pieces of equipment about the

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WHAT'S INSIDE

Other ways to receive Decommissioning INFORMATION

FACT SHEETS
Since June 1999, NASA has produced six fact sheets dealing with various aspects of plans for Decommissioning. Copies are available at public libraries throughout Erie County, at the Community Information Bank at the BGSU Firelands Library, on our Decommissioning Website at www.grc.nasa.gov/www/pbrf and by calling our Information Line at 1-800-260-3838.

COMMUNITY INFORMATION BANK
NASA has established a Community Information Bank (CIB) at the BGSU Firelands Library. The CIB serves as a permanent repository of information on the Decommissioning Project. NASA continually updates the information in the CIB, which includes fact sheets, Public Service Announcements about NASA events, minutes from Community Workgroup meetings, and copies of other decommissioning-related documents and reports. All information at the CIB is available to the public upon request.

DECOMMISSIONING WEBSITE
Decommissioning information is available on-line. Visit us at www.grc.nasa.gov/www/pbrf

SPEAKERS
NASA will provide speakers upon request to civic, community and school organizations throughout Decommissioning. A video or slide presentation may be presented. For further information, contact Sally Harrington through our Information Line at 1-800-260-3838, her direct line at 216-433-2037, or at s.harrington@grc.nasa.gov.

NEIGHBORS & NASA MEET

NASA's Keith Peecook gives a presentation on the project.

Workgroup member Janet Bohne (foreground) chats with a Plum Brook neighbor.

You've heard of neighborhood block parties? Well, NASA recently held its own version of a get-together with its Plum Brook Station neighbors. "We look forward to these opportunities to catch up and really talk with people," said Tim Polich, Decommissioning Project Manager, at the April 24th reception, held at the Perkins Board of Education building. "Keeping the public, especially NASA's nearest neighbors, informed is a commitment that NASA takes seriously," stressed Polich. Larry Pitts, Perkins School Superintendent and former Cambridge Circle neighbor, welcomed area residents to the event saying, "I always felt comfortable with NASA as a backyard neighbor. I attended the Open House NASA held in 1991 and thought it really brought NASA and the community closer together. And I'm pleased to welcome the community and NASA tonight."

> "NASA has been a neighbor for 40 years, and we value the relationship we have with the community."
> -Tim Polich

The reception was one of several events NASA has hosted to share information about the Decommissioning Project. Decommissioning Team members stood near display boards to answer questions. Community Workgroup members were on hand to chat with those who attended about a recent tour of the Reactor Facility (see page one), as well as to share their experiences as community liaisons. Workgroup member Janet Bohne noted that the recent Reactor Tour and other interactions with NASA enable her to "answer questions from local residents with intelligence and accuracy."

NASA Senior Project Engineer Keith Peecook presented an overview of Decommissioning plans, noting that Plum Brook Station remains an active test facility for the space program - and will remain so after the decommissioning of the 27-acre Reactor Facility site is complete. At the end of Decommissioning, NASA will have met the Nuclear Regulatory Commission's (NRC) criteria for "unrestricted use," a cleanup level which means that someone could hypothetically live safely on the site, eat all their crops grown on the site and even drink groundwater from a well on the site. "NASA's number one priority is the safety of the public, the workers and the environment," said Peecook. He also described NASA's extensive environmental monitoring program that includes air, water and sediment sampling from locations inside and outside the Reactor Facility fence line. "All results have been well within normal area background levels of radiation and well below levels set by the NRC," said Peecook.

Decommissioning Team members Hank Bayes & Sheryl Leeper talk with neighbor Daryl Deering.

When asked his impression of the reception, Daryl Deering, President of Schlessman Seed Company, was pleased. As a farmer of 150 acres just down from the main gate, he came to the meeting with some specific questions about how NASA will contain dust and what the baseline levels of radiation are, since some (monitoring) sites are near his house. Said Deering, "NASA answered all my questions. I was satisfied with their answers."

Elaine Waterfield, a Huron Township resident, spoke enthusiastically about NASA's "...care and preparation in addressing what people want to know." She stated, "The public wants to feel it's being heard...I continue to trust the quality of NASA. It is a fine representation of a government agency." Workgroup member Janet Bohne noted that people were glad to hear her say "there is no fuel inside the facility" - something she "has heard NASA tell folks again and again." Pitts said what most impressed him was "the level of expertise" NASA provided in conversations with neighbors. "NASA didn't talk down to them," he said. "Information was delivered at a level people can understand." He saw value in holding similar meetings because "there are always people moving into this district and they ask what goes on behind the fence."

NASA is committed to providing up-to-date information about Decommissioning. Said Polich, "NASA has been a neighbor for 40 years, and we value the relationship we have with the community." ■

Do you want some news? Do you have questions or comments on Decommissioning?
CALL OUR INFORMATION LINE AT 1-800-260-3838.

On Tour (continued from page 1)

cells during experiments. While people attempt to use the arms, Keith mentions that the arms were so sensitive that he had been told that workers conducting experiments in the cells "could thread a needle with them...or disassemble a small-bore engine."

Janet Bohne (at left) checks out the manipulator arms in the Hot Cell Gallery as Rick Graham watches.

The tour then proceeds to the heart of the facility - the containment vessel area, which is surrounded by a series of 25-foot deep quadrants and canals, at the bottom of which sits the reactor tank. Now all dry, three of the quadrants had once been filled with water, part of the barrier to prevent the release of radiation, as was a concrete and rebar "bioshield" four to ten feet thick. When the facility was operational, NASA conducted experiments by inserting materials into the reactor for various periods of time, then removing then by remote control and transporting them through the canals and into the Hot Cells. Keith and retiree Len Homyak discuss the overhead crane that was once used for experiments and has now been reactivated and tested. During Decommissioning, it will lift equipment from the reactor tank into steel cask liners that, once filled, will be placed into the appropriate shipping casks. The filled casks will be inventoried for radiation type and level, then sealed and moved to a safe area of the facility for storage until they are transported to a licensed disposal facility. Keith notes that work on removing fixed equipment from the quadrants and canals will occur sometime this year. Then, beginning next January, a segmentation team from Wachs Technical Services will begin 18 months of work, cutting up the reactor tank and associated internals.

The tour stops at the containment vessel, at the heart of the Reactor Facility.

Later, the tour moves to the former Control Room, evoking memories for retirees and admiration from Workgroup members. Jack Crooks, who once worked in this room explains the former location and function of each component. He points out that each person working here had to be a Licensed Reactor Operator at a time when, "there were no simulators." The discussion of training in the early days of reactor management led Rick Graham to comment "This is awesome...the level of safety they operated with is impressive."

Before the two-hour tour ends, participants visit several other buildings and rooms in the Reactor Facility (see inset), then return to the Access Control Station. Here, all review their dosimeters and record the level at the end of the tour. As Janet Bohne points out, "there was nothing (registering) after the tour." All agree the tour has enhanced their understanding of Decommissioning. Although Bill Walker, Erie County Director of Emergency Management, had to leave and respond to a call, he says later that the tour is another example of NASA "being open in its relationship with the community," adding that he is "impressed by the immensity of the project" and is surprised that the cleanup is "taking less time than I'd expect." John Blakeman is impressed by the facility's "depth of the technology at the time...state-of-the-art nuclear technology."

Everyone agrees the tour was successful. Noted Polich, "I'm very happy with the way the tour went. We've increased the Workgroup's understanding of Decommissioning, providing both a piece of the past and a glimpse into the future of this unique facility and project." ■

Reactor Tour participants in the Control Room (left to right) Mark Bohne, John Blakeman, Sally Harrington, Sheryl Leeper and Bob Speers.

COMMUNITY WORKGROUP PROFILE

Bob Speers

From his career as a professor to his knowledge of wind and water as an expert sailor, Dr. Robert (Bob) Speers is a man of science and teaching. Since 1999, Bob has lent his expertise to NASA as a member of the Decommissioning Community Workgroup. Bob earned his BS in Physics at the University of Michigan, and his MSEE and PhD at Ohio State University. For his dissertation research, he established the energy dependence of neutron damage in silicon. In 1966, he and his family (including his wife, Sandusky area native Martha Evans Speers) moved to the Princeton, NJ area, where he worked for RCA Laboratories. In 1973, he joined the BGSU Firelands faculty, creating and teaching many courses in the electronics and electromechnical technology associate degree programs. He later transferred to the Natural and Social Sciences Department to lead and teach courses in the physics program, where he is currently an associate professor emeritus of physics. Bob continues to teach part-time, help with other physics courses, and guide the educational aspects of Physics Day at Cedar Point.

Bob says his Workgroup role involves "inquiring about various aspects of the project and serving as the local university expert on radiation." His background makes him uniquely qualified to interpret NASA information for fellow Workgroup members and the public. He also shares his understanding of how radiation is measured and of the use of radiation monitoring devices. Part of many of his courses involves hands on demonstrations, showing how radioactivity is a natural part of the environment, and is readily measurable in items such as older luminous wristwatches and gas lamp mantels. He and his students provided this type of demonstration as part of the Plum Brook Station Open House in October 1999.

Bob was one of six Workgroup members taking part in a Reactor Facility tour this spring. He says the strongest impression the tour left was that "NASA is creating an enclosed environment for demolition and removal, with numerous safeguards." One safeguard he feels significant is the environmental

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The Reactor Tour also included these buildings and facilities:

- Laboratories and Mass Spectrometer
- Fan house
- Waste handling facility
- Service equipment building (including electrical generators), which is also where the empty/clean B25 boxes are being stored
- Mock-up Reactor

VISIT US ON-LINE

You can find our Decommissioning Website at www.grc.nasa.gov/www/pbrf

Topics in Upcoming Issue

Project Update
Safe Waste Transportation
Workgroup Meeting & Member Profile

UPDATE

Site-wide Characterization In Process

The Nuclear Regulatory Commission requires that NASA conduct a Part 61 Characterization to describe the type and quantity of isotopes present, to define the packaging required, and to identify the waste processing facilities or disposal sites licensed to accept the waste.

Over the summer and into 2003, the Decommissioning Team will be conducting a Part 61 Characterization of the entire 27-acre Reactor Facility site. According to Keith Peecook, NASA Senior Project Engineer, the site-wide survey is fully outlined in the recently approved Decommissioning Plan and is now slated to begin this year. "The information that the site-wide survey will produce is better to have as early as possible," said Peecook.

The Part 61 Characterization will be conducted on everything inside the buildings and on the grounds, including concrete, soil and any residual water. "This survey establishes a radiological baseline for the site, which we refer to as source term," said Peter Huntley, Project Manager for Framatome ANP DE&S, (formerly Duke Engineering and Services, Inc., one of the contractors on the Decommissioning Team). Using the 2001 Environmental Baseline Survey data, Huntley and his team have divided the site and calculated the number, types and depths of samples to be taken in each section. "If this testing method detects 'hot spots' or elevated levels of radioactivity, we'll sample more and dig deeper than originally specified," said Huntley.

A targeted Part 61 Characterization was conducted in the Reactor Facility's quadrants and canals during pre-decommissioning (see January newsletter). In the same way, workers will use Geiger counters to take direct radiation readings on materials to determine fixed contamination. "This time, we'll also take physical samples (e.g., soil, concrete) for analysis," said Huntley. Smear swipes that determine loose contamination levels will be used on interior building surfaces only. The Part 61 Characterization is an iterative process that will continue as Decommissioning progresses. ■

Profile (continued from page 3)

monitoring program inside and outside the Reactor Facility fence line and within Plum Brook Station. He says it's important to note that analysis of area water and sediment samples is conducted independently of NASA (by General Engineering Laboratories in South Carolina). Bob says NASA is "doing an excellent job" of community outreach on Decommissioning, citing the four-page insert published in the Sandusky Register on May 7 (and available on-line at www.sanduskyregister.com by clicking Special Features on the left-hand column of the Home Page). As Decommissioning continues, Bob hopes NASA will employ local workers whenever possible, saying that "having many local residents involved is critical" to the project's success, and he looks for the "good working relationship between NASA and the public" to continue. ■

NASA Glenn
Plum Brook Station
6100 Columbus Avenue
Sandusky, Ohio 44870

Community Workgroup Meeting
TUESDAY, JULY 23, 7 p.m.
EHOVE Career Center
316 W. Mason Road, Milan
(Meeting is open to the public)